

FIVE NEW SPECIES OF *DIACHLORUS* (DIPTERA: TABANIDAE)
FROM SOUTH AMERICA WITH A REVISED KEY TO
SPECIES AND NEW LOCALITY RECORDS^{1,2}

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Abstract.—Five new species of the genus *Diachlorus* are described and figured and a revised key to the species is presented. New species are: *D. leticia*, *D. trevori*, *D. leucotibialis*, *D. habecki*, and *D. heppneri*. Males of two species, *D. xynus* Fairchild and *D. pechumani* Fairchild, are described for the first time. *D. aitkeni* Fairchild is reduced to a subspecies of *D. pechumani*. New distribution records are given for *D. anduzei* Stone, *D. bicinctus* Fabricius, *D. curvipes* Fabricius, *D. fuscistigma* Lutz, *D. jobbinsi* Fairchild and *D. podagricus* Fabricius.

The genus *Diachlorus* was reviewed and a species key was provided by Fairchild (1972). The recent discovery of five undescribed species and change in status of 1 species prompts us to report these taxa, describe males of two species, revise the key, and add new records which extend the geographic ranges of several species. Species of *Diachlorus* are primarily characterized by a patch of silvery gray ("pearly") pollinosity on their pleura and a bare, shiny frontoclypeus. Most are small to medium sized yellow and black species, but a few are primarily black and at least one has a banded abdomen suggesting that it is a wasp mimic. In addition, many have apical wing patches and all have multicolored black and yellow and/or white legs. Eye patterns are quite varied and many resemble *Chrysops* spp. The genus ranges from eastern and southern United States (New Jersey to Texas) and the Bahamas to Argentina but is absent in Chile and the Antilles.

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KEY TO SPECIES OF *DIACHLORUS* BASED ON FEMALES

1. Subcallus bare and shiny. Largely shiny black species. Apical dark wing patch a vertical band which leaves apex hyaline 2
 - Subcallus wholly pollinose. Apical dark wing patch present, faint, or absent; if outwardly dilute, then abdomen not largely black 4
2. Subcallus with a median silvery pollinose streak. Foretibia wholly black and black haired. Subapical dark wing band concave outwardly. Abdomen wholly shiny black, occasionally with faint sparsely pale-haired median triangles on terga 2 to 5 (northern S. America; Trinidad) *scutellatus* Macquart
 - Subcallus entirely bare and shiny. Foretibia basally white and white-haired. Subapical dark wing band straight or convex outwardly 3
3. Frons about 2.5× as high as basal width. Abdomen with a mid-dorsal yellow integumental stripe, or vestige thereof. Terga 2 and often 3 yellowish or brown laterally. Frontal callus, subcallus and palp yellowish brown. All femora yellowish to brown, the hind pair often with subapical brown band (Brazil, (Bahia to Mato Grosso)) *neivai* Lutz
 - Frons about 3.5× as high as basal width, abdomen wholly shiny black. Frontal callus black, subcallus black or brown, palp yellow to black, largely pale-haired. All femora black (Brazil (Pará) to E. Peru) *xynus* Fairchild
- 4(1). Antennal scape longer than basal plate. Abdomen black, the first 2 terga with conspicuous white transverse bands. Mesonotum black, shiny, with small pale triangles connected to the yellow-haired notopleural lobes. Scutellum yellow pollinose and yellow haired. Wing with broad dark costal band to apex, a narrow dark band covering crossveins at ends of basal cells and small clouds on fork of 3rd vein (N.E. South America) *bicinctus* Fabricius
 - Antennal scape shorter than basal plate. Abdomen rarely black; if so, then otherwise marked. If wing with costal band, then lacking band at ends of basal cells 5
5. Frons about 3.6× as high as basal width, distinctly narrower at vertex, the callus drop-shaped. Antennae unusually long and slender, markedly longer than frons, the style as long or longer than basal plate, the 3rd segment about 3× length of scape. Abdomen dull yellowish with a pair of sublateral blackish stripes covering terga 2 to 6, the median yellowish stripe wider than the black. Fore- and hindlegs mainly brown to black, midleg wholly

pale. Apical wing spot dilute, brownish, often fading out in cell r_4 (S. Brazil) *bivittatus* Wiedemann 6

- Without the above combination of characters 6

6. Frons narrow, over 3.5× as high as basal width, generally parallel sided or widened in the middle (rarely narrowed above) .. 7

- Frons broad, less than 2.5× as high as basal width, nearly always narrowed above 19

7. Mesonotum and scutellum both pollinose, the former unstriped. Stigma yellow, brown or black 8

- Either mesonotum or scutellum or both with bare shiny areas 9

8. Median yellow-haired abdominal stripe broad, at least 1/3 width of abdomen, often appearing as a series of broadly overlapping triangles. Distal ends of basal cells distinctly brown bordered and often with brown streaks in 1st basal and base of 1st posterior cells (USA (New Jersey) to Costa Rica) *ferrugatus* Fabricius

- Median yellow-haired abdominal stripe narrow, often indistinct, not over 1/4 width of abdomen on terga 2 to 4, occasionally wider on posterior terga. Wings without dark clouds except apical patch (Northern S. America) *fuscistigma* Lutz

9(7). Mesonotum without pollinose stripes on bare shiny areas. Stigma intensely black and wing patch strongly black 10

- Mesonotum with at least a median yellow pollinose stripe on bare shiny areas, rarely absent. Stigma yellow to brown, rarely black. Wing patch variable 13

10. Abdomen translucent yellow on first 2 segments, 3 with diffuse dark patches on posterolateral corners, 4 largely brown, 5 to 7 shiny black, all black pilose dorsally except yellow hairs laterally on terga 1 to 3. All tibiae largely black (E. Colombia) *leticia*, new species

- Abdomen yellow in the middle of first 4 terga and with broad blackish dorsolateral stripes. Terga 5 to 7 shiny black. Pilosity yellow in middle and at extreme sides of first 4 terga, black elsewhere 11

11. Frontal callus square, narrower than frons. Scutellum shiny black. Forecoxa, distal 1/2 of forefemur, all of mid- and hindfemora and fore- and hindtibiae black, only midtibia and mid- and hindtarsi white. Pale pollinosity and pilosity whitish (E. Ecuador; Brazil (Amazonas)) *leucotibialis*, new species

- Frontal callus higher than wide, filling width of frons. Scutellum yellow, as is pale pollinosity and pilosity. Forecoxa and mid- and hindfemora largely pale 12

12. All femora and midtibia pale, at most fore- and midfemora distally dusky. Fore- and hindtibiae black (E. Ecuador) *habecki*, new species
 - Distal $\frac{1}{2}$ to $\frac{1}{3}$ of fore- and hindfemora black. All tibiae black (E. Ecuador) *trevori*, new species
- 13(9). Mesonotum without a pair of anterolateral dark shiny oval spots above pronotal lobes. Median pale pollinose stripe on mesonotum widened at level of wing insertions. Frons about 4.5 \times as high as basal width. Scutellum yellow margined (Panama to Amazon basin) *curvipes* Fabricius
 - Mesonotum with a pair of anterolateral dark shiny oval spots or streaks above pronotal lobes 14
14. Abdomen with a pair of prominent black integumental dorsolateral stripes from 1st through 3rd terga; terga 4 to 7 black with broad middorsal yellow-haired triangles. Apical wing patch rather dilute, not obvious much posterior to vein M_1 . Frons about 5 \times as high as basal width. Scutellum black at base (E. Peru) *pechumani pechumani* Fairchild
 - Abdomen without prominent black integumental dorsolateral stripes, at most with faint black spots on terga 2 to 4, and stronger spots on terga 5 to 7 15
15. Abdomen with faint blackish spots dorsolaterally on terga 2 to 4, and small shiny black spots on terga 5 to 7. A pair of diffuse broad black-haired stripes extends from terga 2 to 4, becoming narrower posteriorly. Apical wing patch as in *pechumani*, but frons slightly narrower and scutellum wholly yellow (Brazil (Pará)) *pechumani aitkeni* Fairchild
 - Abdomen otherwise. Scutellum at least dark at base 16
16. Median yellow stripe of mesonotum conspicuous, slender. Scutellum wholly black (Brazil (Rio de Janeiro)) *varipes* Rondani
 - Median yellow stripe of mesonotum faint or, more usually, absent. Scutellum rarely wholly dark 17
17. Dark wing patch rarely evident beyond 1st posterior cell, and then only in dilute form (Costa Rica to Ecuador, and Brazil (Amazonas)) *jobbinsi* Fairchild
 - Dark wing patch extended along hindborder of wing in full intensity to anal cell 18
18. Hindtibia black and densely black pilose. Last 2 abdominal segments all black and black pilose. Frontal callus higher than wide, frontal index 5.0 to 5.4 (E. Peru) *heppneri*, new species
 - Hindtibia yellow to brown, yellow to brown pilose. Last 2 abdominal segments at most with shiny black dorsolateral patches,

- largely yellow pilose. Frontal callus as wide as high. Frontal index 4.0 or less (Venezuela to Brazil (Mato Grosso))
- *nuneztovari* Fairchild and Ortiz
- 19(6). Abdomen with a large prominent black median integumental spot on 2nd tergum, often extending onto 3rd segment. Inner margin of dark apical wing patch proximal to fork of 3rd vein 20
- Abdomen otherwise. Apical wing patch distal to fork of 3rd vein, often faint 21
20. Apical wing patch complete, extensive and intense, its proximal border curved inward, nearly reaching end of discal cell (Northern S. America) *podagricus* Fabricius
- Apical spot a broad vertical band, leaving apex of wing hyaline, its proximal border straight (S. Central Brazil) . . . *fascipennis* Lutz
21. Mesonotum dark with at most a slender median pale line and margins and scutellum pale haired. Abdomen with pale-haired hind marginal bands widened into low median triangles 22
- Mesonotum with a pattern of dark shiny areas separated by 3 pale pollinose stripes. Abdomen with a median pale-haired stripe or series of connected triangles 23
22. Mesonotum with a slender pale-haired median stripe; sides, posterior margin, and scutellum also pale haired. Abdomen largely black, the hindmargins of all terga pale, yellow haired, and with small median yellow-haired triangles. Sides of 1st 2 terga with yellowish patches (Brazil (Minas Gerais)) *altivagus* Lutz
- Mesonotum without median stripe. Abdomen shining light yellow-brown, with anterior parts of terga darkened dorsolaterally. Hindmargins of all terga pale margined, with median triangles and pale hairs (Brazil) *glaber* Wiedemann
23. Shiny black areas of undenuded mesonotum consisting of a pair of inverted comma-shaped marks nearly meeting in median line just anterior to scutellum. Abdomen light yellow on first 3 terga; succeeding terga each with a dorsolateral pair of black patches on anterior border. Each tergum with a yellow-haired median triangle reaching anterior border and broad yellow-haired hindmargins. Wings with but a faint trace of apical spot in marginal and submarginal cells (S. Central Brazil)
- *immaculatus* Wiedemann
- Black pattern of mesonotum more extensive. Abdomen otherwise 24
24. Abdomen light yellow brown, tergum 2 with golden yellow mid-stripe, terga 3 to 5 with a gradually darkening and more distinct dark midstripe, and 3 to 6 with lateral brown streaks. Black

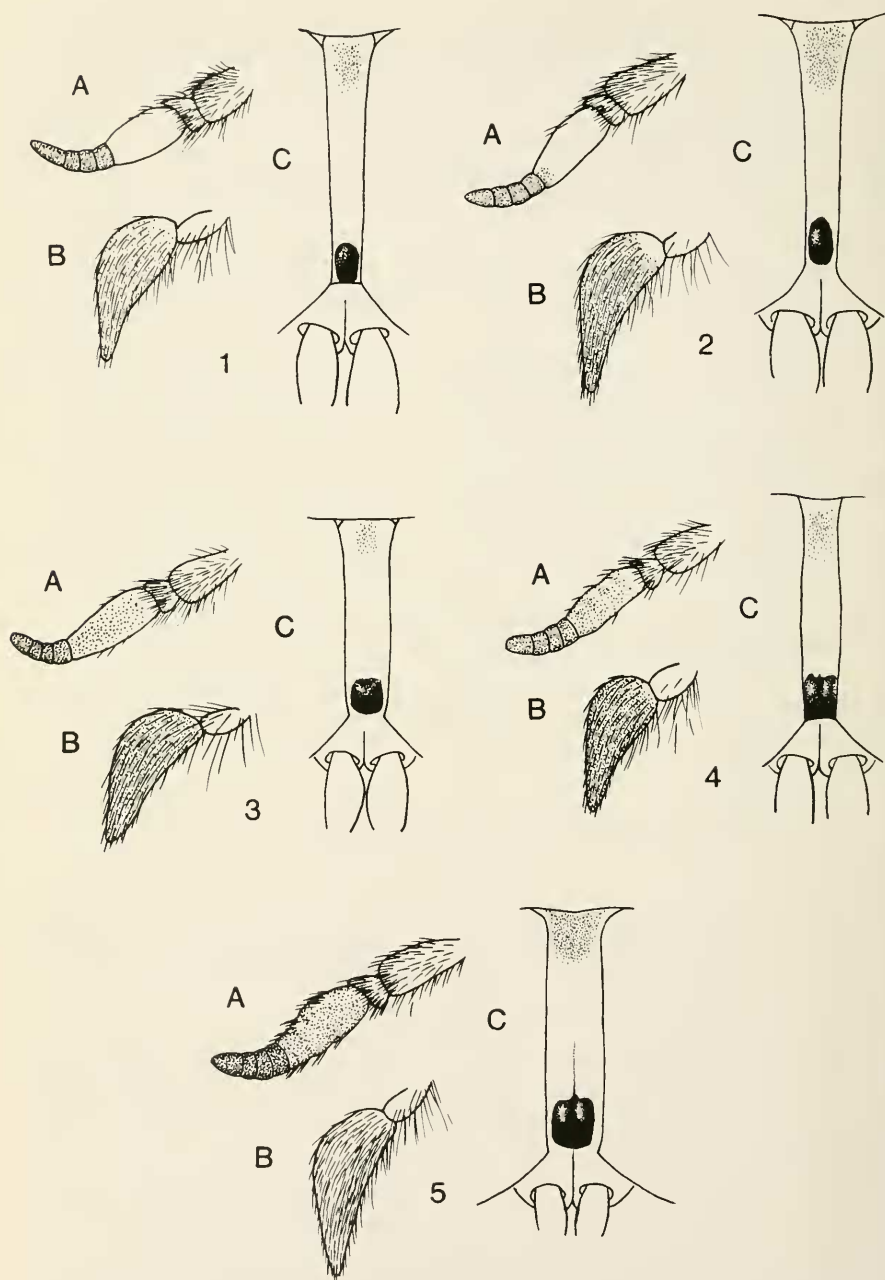
- mesonotal pattern consisting of 4 dorsal stripes, the outer pair curved dorsad and joining before scutellum. Femora yellow, except tips of fore- and hindfemora. Wing as in *distinctus* (Brazil (Bahia)) *afflictus* Wiedemann
- Abdomen without median dark stripe 25
25. Abdomen with a broad diffuse middorsal yellow-haired stripe, widening on posterior terga. Apical wing spot dilute but well defined, its proximal border sharp, straight, to fork of 3rd vein. Mesonotum on disk shiny black with 3 grayish pollinose stripes, the margins and scutellum yellow haired. Palp dark brown to blackish, shiny (S. E. Brazil) *distinctus* Lutz
- Abdomen with a narrow, even yellow-haired middorsal stripe. Apical wing spot dilute and diffuse, seldom reaching fork of 3rd vein. Median pale stripe of mesonotum broader than laterals, usually yellow haired 26
26. All femora brown or blackish, at least darker than tibiae of mid-pair. Abdomen largely brown to blackish (S. Brazil, Paraguay, Argentina) *flavitaenia* Lutz
- All femora yellow. Abdomen generally extensively yellow 27
27. Abdomen yellow to yellowish brown, with a pair of diffuse dark integumental spots on tergum 2, and terga 4 to 6 generally darkened (S. Brazil, Bolivia, E. Ecuador) *bimaculatus* Wiedemann
- Abdomen yellow, with more or less distinct dark patches or triangles on extreme sides of terga 4 to 6 (Venezuela, Ecuador, Colombia) *anduzei* Stone

***Diachlorus leticia* Wilkerson and Fairchild, NEW SPECIES**

Figs. 1A–C

A slender species resembling *fuscistigma* Lutz, the mesonotum blackish, unstriped, scutellum yellowish, all femora and coxae largely pale, all tibiae blackish. Frons very narrow, abdomen without conspicuous pattern, and wing with black stigma and strong apical spot.

Female.—Length 9 mm; of wing 8 mm. Head structures as figured. Frontal index 8.2, index of divergence 1.2. Frons pale silvery gray pollinose with shiny brown callus and diffuse black patch at vertex. Vestiture of short, sparse, pale yellow hairs, becoming darker around dark patch at vertex. Integument of subcallus and face dark brown; the subcallus shiny silvery pollinose, gena pale yellow pollinose. Frontoclypeus mostly bare, shiny dark brown, lateral area below tentorial pit thinly pale pollinose. Beard sparse, of pale yellow hairs except for small patch of black hairs and dark pollinosity above base of palp next to eye. Eye in life green with dark blue border and horizontal blue mark as figured by Lutz (1913) for *D. fuscistig-*



Figs. 1-5. 1, *Diachlorus leticia*. 2, *D. trevori*. 3, *D. leucotibialis*. 4, *D. habecki*. 5, *D. heppneri*. All holotypes. A, Antenna. B, Palp. C, Frons.

ma. Antennal scape, pedicel, and base of flagellum yellow to orange, remainder of basal plate pale brown becoming dark brown on annuli. Antennal hairs pale yellow above and below, dark brown laterally. First palpal segment yellow pollinose, pale yellow haired; 2nd segment with brown integument showing through sparse shiny yellow pollinosity, hairs pale yellow. Proboscis blackish, stylets about as long as palp, labella large and wholly fleshy.

Mesonotum black in ground color. Central area in a broad diffuse transverse band between transverse sutures, and prescutellar area shiny blackish. Area anterior to transverse suture thinly pale pollinose. Notopleural lobes, postalar lobes, prescutellum and scutellum thickly yellowish pollinose and yellow pilose. Pilosity on dark areas sparse, black. Pronotal lobes, propleural lobes and forecoxa yellow and pale pollinose and pilose. Mesopleuron including midcoxa infuscated, mesoanepisternum and mesokatepisternum shiny black in ground color, sparsely covered with pearly pollinosity; remainder of pleura including portions of the mesoanepisternum and mesokatepisternum near the wing base sparsely yellow pollinose. Hindcoxa pale yellow and pale yellow pollinose. Basal $\frac{1}{2}$ of forefemur, all of midfemur, and all but apex of hindfemur pale yellow. Apical $\frac{1}{2}$ of forefemur and apex of hindfemur heavily infuscated. Tibiae black; midtibia whitish apically. Foretarsus black; 1st tarsomere of mid- and hindlegs contrastingly white, remainder brown. Leg hairs yellow, black or whitish, corresponding to underlying color. Wings hyaline with smoky brown apical patch reaching from end of vein R_1 , through fork of 3rd vein and continuing posteriorly more faintly through distal area of posterior cells. Costal cell brown. Stigma dark brown, vein R_1 from the stigma to its termination yellow. Wing veins brown margined, more intensely so at apices of basal cells. Halter with yellow stem and dark brown knob. Integument of abdominal terga 1, 2, and most of 3 translucent yellow. Tergum 3 with dorsolateral faint, diffuse black patches, remaining terga shiny black. Dorsal pilosity of numerous short black hairs except for pale yellow hairs laterally and mesially on tergum 1 and a quite small inconspicuous median patch on tergum 2. Abdominal sterna 1-4 yellow pollinose and yellow haired; remaining sterna black and black haired.

Types.—Holotype, ♀, Colombia, Comisaría of Amazonas, 17 km N. Leticia, 25 July 1973, elev. 100 m, Malaise trap, Wilkerson and Young coll. To be deposited in Florida State Collection of Arthropods (F.S.C.A.).

Paratypes, 2 ♀, same locality but 26 July 1973. To be retained in collections of the authors.

Paratypes have wing lengths of 8.5 and 9.0 mm and frontal indices of 8.2 and 9.3. They agree in detail with the holotype, one differs slightly in that there is faint indication of a pale middorsal abdominal stripe.

Discussion.—*Diachlorus fuscistigma* is similar to *D. leticia* but the two are readily distinguished by leg coloration and abdominal vestiture. The

midtibia of *D. leticia* is black and the middle and back first tarsomeres white. The midtibia of *D. fuscistigma* is pale yellowish brown and the mid-tarsus pale yellowish brown, the hindtarsus pale basally darkening to brown apically. *Diachlorus fuscistigma* has a broad middorsal yellow-haired abdominal stripe not evident in *D. leticia*. These two species share the same eye pattern which, to our knowledge, is unique in the genus.

It is unlikely that *D. leticia* is but a color form or subspecies of *D. fuscistigma* since it occurs in the middle of the range of *fuscistigma*: Surinam; Brazil (Amazonas, Pará, Bahia); Bolivia; Colombia; Ecuador; Peru. Both have been taken in the vicinity of Leticia, Colombia, and we have seen no intermediates.

Diachlorus trevori Wilkerson and Fairchild, NEW SPECIES

Figs. 2A-C

A slender species with narrow frons, unstriped mesonotum, largely yellow coxae and femora, black tibiae and white mid- and hindtarsi. Abdomen yellow with broad sublateral dark stripes and apex. Wings with dark stigma and a conspicuous black apical patch.

Female.—Length 10 mm; of wing 9 mm. Head structures as figured. Frontal index 8.4; index of divergence 1.3. Head structures, pilosity and pollinosity as in *D. leticia*. Eye pattern not noted.

Thorax, wings and legs as in *D. leticia*, except that the scutellum is mostly yellow in ground color, darkened slightly at base and lateral bare shiny areas are anterior to transverse sutures.

First abdominal tergum yellow; 2-4 yellow with broad dorsolateral black stripes formed of large contiguous spots; remaining terga black. Dorsal hairs largely black but yellow laterally and in central portion of mid-dorsal yellow stripe. Abdominal sterna 1-4 yellow and yellow haired; remaining sterna black and black haired.

Male.—Length 9.5 mm; of wing 9.0 mm. Like female with following differences. Eyes bare, holoptic, a central area of poorly demarcated larger facets occupies about $\frac{1}{3}$ eye area. Vertex with small black tubercle which does not reach eye level and bears no visible vestiges of ocelli. Palp greatly swollen, drop-shaped, shiny black and sparsely yellow haired. Sublateral abdominal spots less extensive than in female, not contiguous.

Types.—Holotype, ♀, Ecuador, Napo Province, Limoncocha, Playaco River, Malaise trap, 23-28-VIII-1980, Knopf and Dunkle coll. Allotype, ♂, same information as holotype but netted. Paratypes 12 ♀, 7 ♂, same data as holotype. Holotype and Allotype to be deposited in F.S.C.A.

Female paratypes, length 8.5-11.0 mm; wings 8.5-9.5 mm. Frontal indices 7.0-9.3; indices of divergence 1.2-1.6. Male paratypes, length 9-11 mm; wings 8-9 mm, paratypes to be retained in collections of the authors.

Discussion.—The sublateral abdominal stripes of the males vary from

very faint, with some lacking the spot on the fourth segment, to nearly as prominent as in the female.

Diachlorus trevori is similar to two species described here, *D. habecki* and *D. leucotibialis*. *Diachlorus leucotibialis* has black mid- and hindfemora and a white midtibia; *habecki* has wholly yellow midlegs; *D. trevori* has largely yellow mid- and hindfemora and a black midtibia. *Diachlorus leucotibialis* has a black scutellum and grayish yellow thoracic pollinosity instead of the yellow scutellum and yellow thoracic pollinosity of *trevori* and *habecki*.

Named for Trevor Alan Wilkerson, son of the senior author.

***Diachlorus leucotibialis* Wilkerson and Fairchild, NEW SPECIES**

Figs. 3A-C

A slender species with a narrow frons, extensively black legs but midtibia and basitarsus and hindbasitarsus contrasting ivory white. Scutellum black and shiny. Abdomen yellow with broad dorsolateral black stripes and a black tip, the wing with a black stigma and dilute black apical patch not extending along hind border beyond 3rd posterior cell.

Female.—Length 8 mm; of wing 7.5 mm. Head structures as figured. Frontal index 4.6, frons slightly widened below. Color of vestiture of head and appendages as described for *D. leticia*. Mesonotum as in *D. leticia* but yellow integumental and pollinose borders paler, whitish yellow instead of yellow. Scutellum shiny black in ground color with sparse yellow hairs and pollinosity. Propleuron pale yellow pollinose and sparsely yellow haired. Remainder of pleural integument and midcoxa black, showing through sparse silvery gray pollinosity typical of genus. Foreleg with coxa black in ground color, sparsely yellow pollinose and yellow haired; femur bicolored, basally yellow, apically black; tibia and tarsus entirely black. Midleg with trochanter yellow, femur black, tibia and basitarsus white, remainder of tarsus brown. Hindleg with coxa, trochanter, and extreme base of femur yellow; rest of femur and all but extreme base of tibia black; basitarsus white, remainder of tarsus brown. Wing and halter as in *D. leticia*. Abdominal tergum 1, sides of 2 and a middorsal broad stripe through 5, yellow and yellow haired; the remainder black and black haired. Sterna 1, 2, and large median areas of 3-5 yellow and yellow haired; lateral areas of 3-5 and remaining segments black and black haired.

Types.—Holotype, ♀, Ecuador, Napo Province, Primavera, netted, 26-VIII-1980, Dunkle and Knopf coll. To be deposited in F.S.C.A.

Paratypes: 1 ♀ same data as holotype; 8.5 mm long, wing 8.0 mm, frontal index 4.9. 2 ♀, Brazil, Amazonas, Manaus, Reserva Ducke, VI-1976, L. Albuquerque; length 6.5 and 7.0 mm, of wing 7.0 and 7.5 mm, frontal indices 4.3 and 4.9. All paratypes agree well with the holotype though the 2 from Brazil are paler yellow than the Ecuadorian specimens.

Discussion.—*Diachlorus leucotibialis* is quite similar to *D. trevori* and *D. habecki*. The differences between these three are discussed under *D. trevori*.

***Diachlorus habecki* Wilkerson and Fairchild, NEW SPECIES**

Figs. 4A–C

A slender species with a narrow frons, unstriped mesonotum, and legs mostly yellow, but with the fore- and hindtibiae black, the foretarsus black and the mid- and hindtarsi white. Abdomen with large sublateral black spots on terga 2 to 3 or 4, the last 3 segments of the abdomen black.

Female.—Length 8 mm; of wing 8 mm. Head structures as figured. Frontal index 6.8. Frons slightly widened in middle. Color of integument and vestiture of head structures as in *D. leticia* except that palp is darker, 1st segment concolorous with 2nd black, not orange brown as in *leticia*. As noted from figures, basal plate of antenna of *habecki* not markedly widened. Mesonotum, scutellum, pleura, wing, and halter all as in *D. leticia*. Coxae, femora, and midtibia yellow and yellow haired. Foretibia and tarsus and hindtibia black and black haired. Mid- and hindbasitarsi white and white haired, remainder of tarsus brown.

Abdominal terga 1–4 yellow and yellow haired with broad dorsolateral black and black pilose stripes, broadest on tergum 2, narrower on 3, and obsolete or absent on 4. Abdominal segments 5–7 shiny black and black haired. Sterna 1–4 yellow and yellow haired.

Types.—Holotype, ♀, Ecuador, Napo Province, Limoncocha, Playaco River, 23–28-VIII-1980, Malaise trap, Knopf and Dunkle coll. To be deposited in F.S.C.A. Paratypes, 3 ♀, same data as holotype. The paratypes are 7.5–9 mm long; wings 7–8.5 mm with frontal indices of 6.5–6.7. One has a parallel-sided frons, another is slightly widened in the middle, another slightly wider below than above. To be retained in the collections of the authors.

Discussion.—*Diachlorus habecki* is very similar to *D. leucotibialis* and *D. trevori*. The differences between these three are discussed under *D. trevori*.

Named in honor of Professor Dale Habeck of the Department of Entomology and Nematology, University of Florida, in grateful acknowledgment of numerous kindnesses to both of us.

***Diachlorus heppneri* Wilkerson and Fairchild, NEW SPECIES**

Figs. 5A–C

A slender species similar to *D. nuneztovari*, with yellow palpi, striped mesonotum, mostly yellow scutellum and legs mostly yellow except for black fore- and hindtibiae and foretarsus. Wings with a distinct dark apical patch extending in full intensity along hind border to anal cell. Abdomen orange with a sharply black and shiny tip.

Female.—Length 9.5 mm; of wing 10.0 mm. Head structures as figured. Frontal index 5.4. Frons nearly parallel sided, widened slightly in middle and above. Frons grayish yellow pollinose with shiny dark brown callus and diffuse black patch at vertex. Vestiture of short sparse pale yellow hairs becoming black and numerous at dark patch at vertex. Subcallus, gena, and lateral area of frontoclypeus silvery gray pollinose. Remainder of frontoclypeus shiny, dark brown. Scape and pedicel yellow, outer aspect brown haired, remainder yellow haired. Flagellum brown, annuli slightly darker than basal plate. Palp yellow and yellow haired. Stylets about as long as palp, proboscis brown and brown pollinose, labella large and wholly fleshy. Beard of sparse pale yellow hairs.

Mesonotum yellow and yellow pollinose with broad median shiny black stripe reaching to prescutellar area and projecting laterally to transverse suture and back to wing base. Anterior to transverse sutures are a pair of subshiny dorsolateral spots formed of dark integument showing through sparse pollinosity which are separated from median dark stripe by dense pale pollinosity. Scutellum shiny dark orange, sparsely yellow haired and with dark spot at base. Propleuron yellow pollinose and yellow haired. Remainder of pleura with black integument showing through silvery gray pollinosity. Area below wing base sparsely yellowish pollinose. Foreleg with coxa and femur yellow; tibia and tarsus black. Midleg with coxa black; femur and tibia yellow; basitarsus white, remainder of tarsus pale brown. Hindleg with coxa and femur yellow; tibia black; basitarsus white, remainder black. Leg hairs concolorous with integument. Halter yellow. Wing with distinct smoky brown apical patch beginning at end of vein R_1 , continuing through fork of 3rd vein and posteriorly in broad band through 5th posterior cell. Costal cell tinted yellow, 1st basal cell with broad anterior brown streak, and stigma pale brown.

Abdominal terga 1–5 dark yellow, 6 and 7 black. Tergum 1 and 4 and 5 yellow haired; 2 and 3 black haired with broad median yellow haired stripe; 6 and 7 black haired. Sterna 1–4 yellow and yellow haired; 5 dusky and yellow haired; 6 and 7 black and black haired. Five yellow anterior segments thinly yellow pollinose, 2 terminal black segments shiny.

Types.—Holotype, ♀, Peru, Madre de Dios, Rio Tampopata Reserve, 30 air km SW Pto. Maldonado, 290 m, 6–10-XI-1979, Subtropical Moist Forest, J. B. Heppner coll. To be returned to National Museum of Natural History, Washington, D.C. (USNM). Paratypes 2 ♀, same locality as holotype, one, 21–25-XI-1979, the other 16–20-XI-1979. To be returned to USNM.

Paratypes are 9.5 and 9.0 mm long and have wing lengths of 9.5 mm. Frontal indices are 5.0 and 4.8.

Discussion.—*Diachlorus heppneri* is quite similar to a sympatric species, *D. nuneztovari*. *Diachlorus nuneztovari* has a slightly broader frons, pale hindtibia, and a distinct broad abdominal yellow-haired stripe reaching

through terga 6 or 7. *Diachlorus jobbinsi* is also similar but has a pale hindtibia and less extensive wing coloring, the apical patch not extended posteriorly, and the first basal cell not infuscated brown.

Named in honor of Dr. John B. Heppner, lepidopterist of the National Museum of Natural History and the collector of this and many other interesting tabanids.

Diachlorus pechumani Fairchild

This species was based on 4 females from Quince Mil, Prov. Cuzco, Peru. An additional female collected by Wilkerson and Young is from Colombia, Amazonas, 17 km W. of Leticia, 22-VII-73. It is paler than the available paratype, the dark abdominal stripes being only a little darker than the darkest available paratype of *D. aitkeni*, while the dark pilose areas on the hindlegs are less dark and less extensive than on the paratypes of *D. pechumani*. Three additional females from Surinam, though not in perfect condition, are nearly as dark as the Colombian example cited above, although geographically closer to the type-locality of *aitkeni*. Further specimens from the type-locality of *aitkeni* are a male and a female taken by D. G. Young in July–Aug. 1974, and 4 females taken in the forest canopy by I. S. Gorayeb, and J. A. Rafael, 1–6-VII-1981. Surprisingly, the species proves to be sexually dimorphic, the male being even darker than *pechumani*, the female with almost entirely yellow legs and abdomen. A description of the male follows.

Male.—Length 9 mm, of wing 8 mm. Eyes bare, holoptic, bearing a poorly demarcated area of greatly enlarged facets in middle, covering about $\frac{1}{3}$ or less of whole eye area. Vertex with a black subshiny tubercle beset with long black hairs and reaching to eye level. Subcallus and frontal triangle brown in ground color, the former silvery pollinose, the latter bare and shiny. Frontoclypeus inflated, black, shiny, with sunken orange pollinose lower median subtriangular area. Cheeks thinly gray pollinose, sparsely pale haired. Antenna as in female but basal plate and style more slender. Palp inflated, banana-like, black and shiny, the 1st segment orange, contrasting with the 2nd, both sparsely haired. Proboscis blackish, theca sclerotized, labella soft, exceeding length of palp.

Thorax marked as in female, though dark areas more extensive and less pollinose, so that thorax appears more dark and shiny. Scutellum blackish, shiny. Wings as in female, apical spot dilute, barely visible beyond apical cell. Stigma yellow. Forecoxa yellow, mid- and hindcoxae lightly infuscated on outer surface. Forefemur apically black, basally pale, bicolored. Midfemur largely brown, yellow at base and apex. Hindfemur black except for pale basal $\frac{1}{5}$ and extreme apex. Foretibia and tarsus black to dark brown. Midtibia white and white pilose, as is tarsus except for dusky tip. Hindtibia

about $\frac{1}{3}$ pale basally, otherwise black, tarsus white except for a dusky tip. Vestiture follows integumental color. Halter with yellow stem and brown knob.

Abdomen translucent yellowish, 1st segment brownish on posterior margins, 2nd to 6th terga with broad blackish patches which form dorsolateral stripes on terga 2 and 3 but reach lateral margins on terga 4 to 6. Terga 2 and 3 also have extreme sides somewhat infuscated. Median yellow strip widened to form complete or nearly complete pale hindmargin on segments 4 to 6. Beneath abdomen is translucent on first few segments, except for chalky white patch at sides of 1st segment. Posterior segments yellow, increasingly brown infuscated to nearly black terminally. Vestiture sparse, of long hairs, and integument largely shiny both above and below.

Discussion.—Plesiotype ♂, Brazil, Pará, Belem, APEG forest, 29-VII to 6-VIII-1974, D. G. Young coll., flight trap.

The additional material here reported and the appearance of the male make it necessary to reduce *D. aitkeni* to a subspecies of *D. pechumani* since the latter has page precedence and was the species illustrated.

Diachlorus xynus Fairchild

Two additional females from Colombia, Meta, El Porvenir and Carimagua, II and III 1979, Wilkerson coll., agree closely with paratypes from Surinam and eastern Colombia in having the wings more lightly marked and in being smaller than Peruvian examples. Two male examples from Brazil, Mato Grosso, Rio Aripuana, Humboldt, 59°27'W., 10°10'S., 12-16-VIII-74, D. G. Young coll., flight trap, are unfortunately not accompanied by females. We believe, however, that they belong with *xynus* rather than *scutellatus*, as they lack the median pollinose stripe on the subcallus and have very dark costal cells, irregular proximal margin of apical spot, and strong clouds around apices of basal cells and discal cell. Both specimens are almost entirely shiny black and sparsely black-haired, showing pale vestiture or integument only on the four posterior basitarsi, extreme bases of four posterior tibiae, and small tufts of dark golden hairs on notopleural lobes and disk of scutellum. The halteres have blackish stems and orange heads. The eyes are bare with large facets confined to a small area in the front of the eye, the facets not much enlarged nor demarcated from the small facets. Although holoptic, the eyes are in contact for only a short distance, and there is a prominent brownish subshiny frontal triangle and a large black and hirsute tubercle at vertex rising well above eye level. The antennae are like those of the female, though more slender, the palpi greatly inflated, both segments shiny black and the 2nd with long outstanding hairs. Wings are like those of females from eastern Peru, heavily marked, and with the basal cells strongly brownish tinged.

NEW DISTRIBUTION RECORDS

- Diachlorus anduzei* Stone. 1 ♀, Ecuador, Napo Prov., Limoncocha, 18-25-V-76, T. E. Rogers coll., flight trap.
- Diachlorus bicinctus* Fabricius. 1 ♀, Bolivia, Dept. Beni, Rio Itenez at mouth of Rio Baures, 30-IX-1964, J. K. Bouseman coll. 2 ♀ Brazil, Mato Grosso, Rio Aripuana, Humboldt, 12-16-VIII-1974, D. G. Young coll., flight trap. These specimens are darker than those from Surinam, with more extensive and darker wing spots at ends of basal and discal cells and at fork, while the costal dark band is extended in a faint apical patch along the hind border to the 3rd posterior cell.
- Diachlorus curvipes* Fabricius. 3 ♀, Bolivia, Dept. Beni, Rio Mamore and Rio Itenez, Aug., Sept. 1964, Bouseman coll.
- Diachlorus fuscistigma* Lutz. 1 ♀, Bolivia, Rio Itenez, Pampa de Meio, 11-13-IX-1964, J. K. Bouseman coll.
- Diachlorus podagricus* Fabricius. 2 ♀, Brazil, Pará, Mocambo, (APEG forest), I-VII and 4-6-VII-1981, flight trap in forest canopy 1 ♀, 29-VII to 6-VIII-1974, flight trap, D. G. Young coll.; 4 ♀, Brazil, Amazonas, Reserva Ducke near Manaus, 24, 25, 29-VII-1981 and 14-VIII-1981, arboreal flight trap; 2 ♀, Brazil, Amazonas, Manaus, Parque Laranjeiras, 29-VII-1981, arboreal flight trap and 1 ♀, Brazil, Pará, Belem-Brasilia highway, km 94, 10-I-1962, in tree. The species seems almost wholly arboreal. The recent specimens were taken in an arboreal flight trap designed by J. A. Rafael and I. S. Gorayeb.
- Diachlorus jobbinsi* Fairchild. 2 ♀, Brazil, Amazonas, Lago Amana, 10-IX-1979, at light, Robin Best coll. In coll. INPA, Manaus.

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